

MISCELLANEOUS NEW TAXA OF BROMELIACEAE (XVII)

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ABSTRACT. Seven new taxa of Bromeliaceae are described: *Pepinia neeana* from Brazil, *Puya joergensenii* from Ecuador, *Greigia leymebambana*, *Pepinia peruana*, *Pitcairnia arenaria*, *Pitcairnia camposii*, and *Puya pseudoeryngioides* from Peru. Miscellaneous new taxa of Bromeliaceae (XVI) appeared in Brittonia 54(4), 2002.

Key words: Bromeliaceae, *Greigia*, *Pepinia*, *Pitcairnia*, *Puya*, Brazil, Ecuador, Peru

INTRODUCTION

The Bromeliaceae with more than 2900 species in 56 genera (Luther 2002) still yields novelties as fieldwork in the neotropics continues. The following seven new species found in Brazil, Ecuador, and Peru are from general collections sent to the Mulford B. Foster Bromeliad Identification Center for routine determination.

NEW SPECIES

Brazil

Pepinia neeana L.B. Sm. ex H. Luther, sp. nov.

TYPE: Brazil: Rondônia. Mun. Guajara Mirim, western-most hill of Serra Pacaas Novos, 5 km NE of Guajara Mirim, 10°44'S, 65°15'W, 250 m, 10 April 1987, M. Nee 34712 (Holotype: INPA; Isotypes: NY, US).

FIGURE 1.

A *Pepinia ensifolia* (Mez) G.S. Varad. & Gilmartin, cui affinis, inflorescencia longiore et pedicellis et sepalis minoribus differt.

Plant a terrestrial or lithophyte, flowering 50–60 cm tall. **Leaves** dimorphic; some reduced to spinose-serrate acuminate sheaths, others linear, 30–65 cm long. **Leaf sheaths** ovate to broadly elliptic, 1–3 × 2–3 cm, thin, somewhat nerved, pale toward the base, castaneous toward the blade, sparsely brown-lepidote. **Leaf blades** linear, attenuate, 5–10 mm wide, thin-coriaceous; pale-lepidote especially abaxially; deciduous along a straight transverse line above the sheaths, the remnant serrate and incurving. **Scape** erect, 30 cm × 3–4 mm, pale-furfuraceous. **Scape bracts** erect, subfoliaceous, long attenuate, entire, all much exceeding the internodes. **Inflorescence** simple, racemose, 25 cm long, ca. 35-flowered. **Floral bracts** lanceolate, acute to attenuate, mucronate; the lowest exceeding the pedicels, to 20 mm long; the upper shorter than the pedicels, 5–10 mm long. **Flow-**

ers with a slender nearly straight 10 mm long pedicel, spreading at ca. 30° from the axis. **Sepals** lanceolate to subtriangular, acute, 15 mm long, carinate, more or less glabrous. **Petals** incompletely known, each with a single erose basal appendage. **Ovary** ca. ½ inferior, trigonous.

Pepinia neeana seems most similar to the poorly known *P. ensifolia* from Goiás State, Brazil. The latter species has a few-flowered inflorescence (less than 10-flowered) with longer pedicels (15–20 vs. 10 mm long) and longer sepals (16–20 vs. 15 mm long). The color of the flowers can not be determined from the type specimen of *P. neeana*, for *P. ensifolia* collectors note red or bright yellow (!W.W. Thomas et al. 5766 at NY).

This new species was first recognized by Lyman B. Smith, who annotated the US specimen as “*Pitcairnia neeana*.” As this name was never published, I am retaining his epithet but placing it in the genus *Pepinia*, as this new species appears most similar to *Pepinia ensifolia* in both vegetative and floral characteristics.

The genus *Pepinia* remains controversial and is not universally accepted by all (see Taylor & Robinson 1999).

Ecuador

Puya joergensenii H. Luther, sp. nov. TYPE: Ecuador. Loja: Loma del Oro south of Saraguro, humid, shrubby paramo, 03°42'S, 79°13'W, 3200 m, 4 Aug. 1986, P.M. Jørgensen 61405 (Holotype: AAU; Isotype: QCA).

FIGURE 2.

A *Puya atra* L.B. Sm., cui similis et, ramis longioribus tenuioribusque, bracteis florigeris acutis et petalis smaragdinis differt.

Plant a terrestrial, flowering to 2 m tall. **Leaves** densely rosulate, spreading, 30–50 cm long, straight or falcate, coriaceous. **Leaf sheaths** incompletely known, broadly ovate, en-

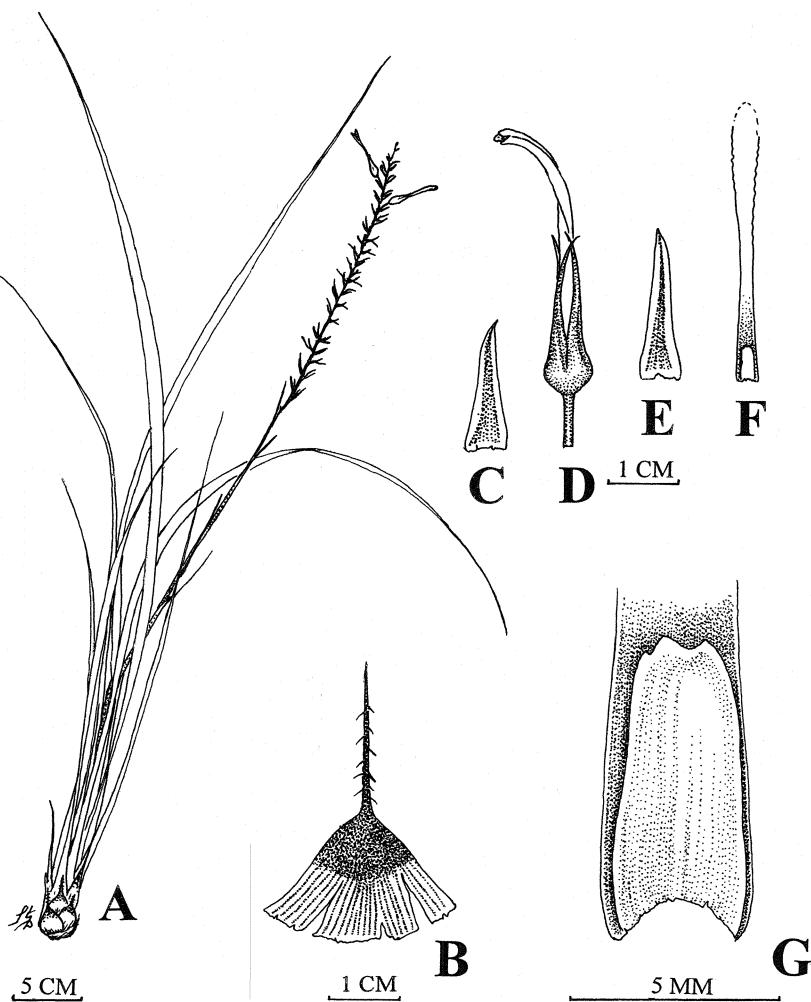


FIGURE 1. *Pepinia neeana*. A. Habit. B. Reduced leaf. C. Floral bract. D. Flower. E. Sepal. F. Petal, apex incomplete. G. Base of petal. (Nee 34712, NY)

tire, at least 5 cm broad, becoming castaneous toward the base, elsewhere concolorous with the blades. **Leaf blades** triangular, acute, pungent, 2–3 cm wide, laxly antrorsely serrate with 2–4 mm long brown spines, appressed pale-lepidote especially abaxially. **Scape** erect, ca. 90 × 3 cm, glabrous, drying dark. **Scape bracts** erect, imbricate; the sheath ovate to elliptic; the blade triangular, laxly antrorsely serrate and pale-lepidote; much exceeding the internodes, drying dark. **Inflorescence** bipinnate, 35 × 25 cm with ca. 17 branches. **Primary bracts** elliptic, acute to attenuate, 8–10 × 3–4 cm, entire to very laxly antrorsely serrulate, thin-coriaceous to subchartaceous, nerved and rugose, inconspicuously appressed pale-lepidote, dark brown. **Branches** with a stout 2–3 cm long stipe, spreading at 45°–

90° from the axis at anthesis, ca. 12 × 4 cm, nearly glabrous, 8–15-flowered. **Floral bracts** broadly elliptic, acute 3–5 × 2–4 cm, entire, thin-coriaceous to subchartaceous, nerved, rugose, glabrous, very dark brown, drying very dark and somewhat lustrous. **Flowers** with a stout 8–10 mm long pedicel, ca. 8 cm long. **Sepals** elliptic, broadly acute to obtuse, 3 cm long, obtusely carinate, nerved, drying very dark. **Corolla** spreading, opening during the day. **Petals** free, naked, oblanceolate, obtuse, 6–7 cm long, emerald green. **Stamens** and **style** included. **Ovary** more than $\frac{1}{2}$ superior.

Puya joergensenii is quite similar to the Bolivian *P. atra* but differs by having more slender, longer, nearly glabrous branches of the inflorescence, with broadly elliptic, apically acute floral

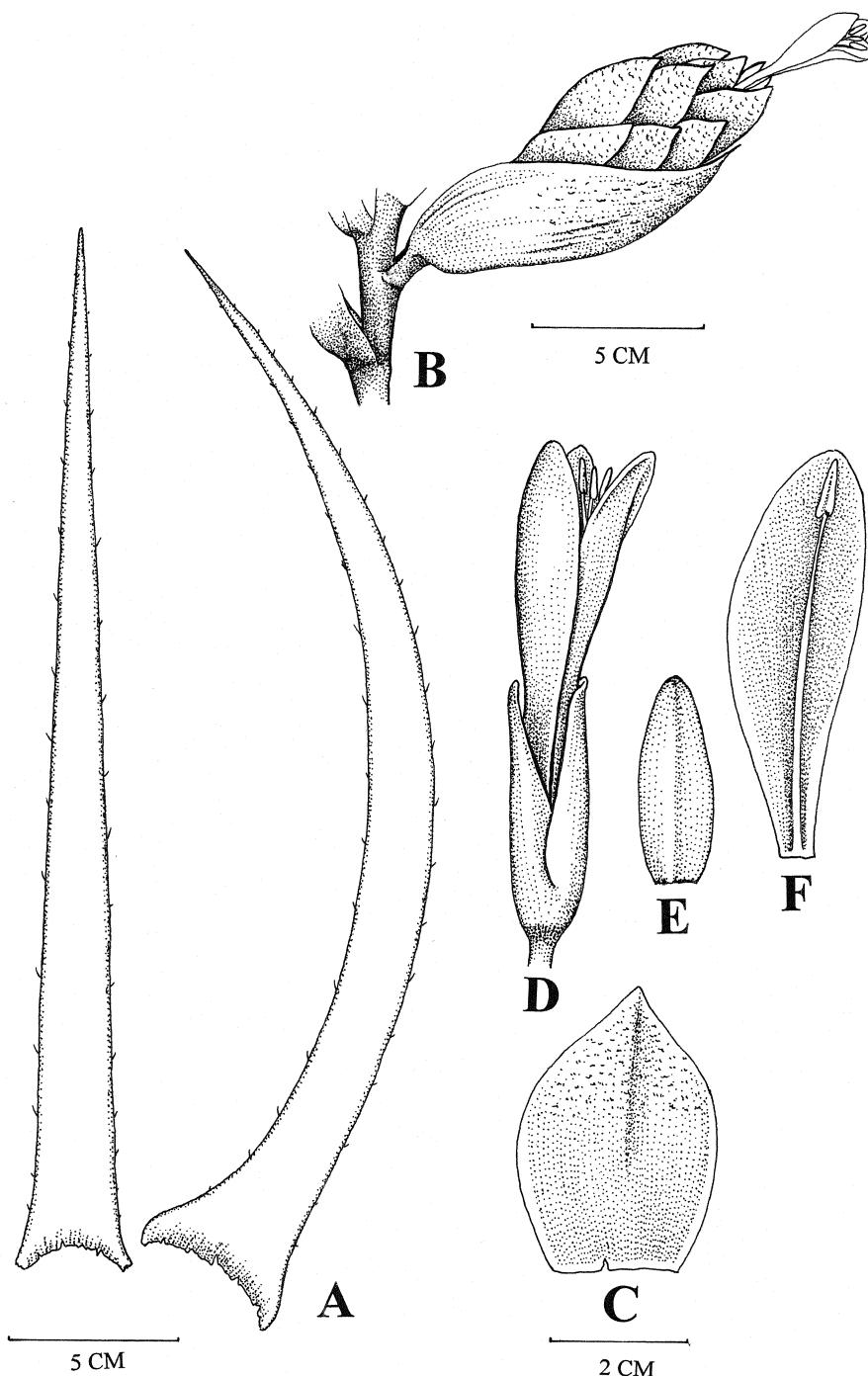


FIGURE 2. *Puya joergensenii*. A. Leaves. B. Branch and primary bract. C. Floral bract. D. Flower. E. Sepal. F. Petal. (P.M. Jørgensen 61405, AAU)

bracts (vs. broadly elliptic to ovate and apically obtuse floral bracts) and emerald green petals (vs. white or creamy green). The collector has had a long association with Ecuadorian flora most recently as co-editor of the Catalogue of the Vascular Plants of Ecuador from the Missouri Botanical Garden.

Peru

Greigia leymebambana H. Luther, sp. nov.

TYPE: Peru. Amazonas: Prov. Chachapoyas, Dist. Leymebamba, Km 2 Laguna de Los Cóndores–Leymebamba, 2700–2950 m, 18 Aug. 1998, V. Quipuscoa S., A. Sagástegui A., S. Leiva G. & M. Bejarano C. 1343 (Holotype: SEL; Isotypes: MO, DIVA).

FIGURE 3.

A *Greigia columbiana* L.B. Sm., cui similis, sepalis carinatis pallidisque differt.

Plant a terrestrial, to 0.8 m tall (!V. *Quipuscoa* S. et al. 1343). **Leaves** rosulate, to at least 75 cm long. **Leaf sheaths** unknown. **Leaf blades** narrowly lanceolate to sublinear, attenuate, 20–35 mm wide, subdensely serrate with 1–2 mm long antorse spines, coriaceous, pale-lepidote especially abaxially. **Scape** 2–3 cm long, compressed. **Scape bracts** subtriangular, 2–4 cm long, sharply carinate, castaneous near the base. **Inflorescences** axillary. **Outer and primary bracts** with an ovate to broadly elliptic base, 5–8 cm long, acute to acuminate, nerved, castaneous toward the center, sparsely pale-lepidote; the outermost serrate with 1–2 mm long dark spines, the innermost entire; nearly all exceeding the flowers in length. **Branches** subsessile, 1 or 2-flowered. **Floral bracts** elliptic to subtriangular, somewhat asymmetrical, acute to attenuate, 25–35 mm long, carinate, castaneous centrally, sparsely lepidote. **Flowers** with a 1–3 mm long, dark-castaneous pedicel. **Sepals** elliptic, acute and apiculate, 18–23 mm long, thin-coriaceous, carinate, drying tan. **Corolla** slightly spreading. **Petals** oblanceolate, broadly acute, 30–33 × 8–10 mm, rose (!V. *Quipuscoa* S. et al. 1343). **Ovary** tricarinate, 16–20 mm long, drying dark-castaneous. **Fruit** cylindric, 25–35 mm long, maroon (!V. *Quipuscoa* S. et al. 1343), drying very dark-castaneous.

This new species of *Greigia* differs from *G. columbiana* most conspicuously by having pale carinate sepals (vs. partially castaneous and ecarinate). In addition, the spines on the leaf margins are paler and less conspicuous. The collector notes that the fruits are eaten and the plant is locally known as “Sacha piña”.

Pepinia peruana H. Luther, sp. nov. TYPE: Peru.

Cajamarca: Prov. San Ignacio, San José de Lourdes, Localidad Jorge Chávez, primary forest, 05°00'00"S, 78°55'00"W, 2000 m, 18 Mar. 1997, J. Campos & S. Corrales 3556 (Holotype: SEL; Isotype: MO). FIGURE 4.

A *Pepinia tatzyanae* H. Luther, cui similis, foliis angustioribus et sepalis longioribus obtusisque differt.

Plant a terrestrial or epiphyte, flowering 60–75 cm tall. **Leaves** rosulate, spreading, pseudo-petiolate, 75–95 cm long, thin-coriaceous, entire throughout. **Leaf sheaths** very narrowly elliptic, 10–15 × 2–4 cm, nerved, pale, sparsely brown-lepidote especially abaxially. **Leaf blades** with a 10–15 × 1–3 cm channeled pseudopetiole; the upper portion of the blade narrowly lanceolate, attenuate, 25–30 mm wide, channeled, nerved, appressed punctate-lepidote especially abaxially. **Scape** erect, 25–40 cm × 2–4 mm, sparsely brown-lepidote. **Scape bracts** erect, narrowly elliptic, attenuate, subfoliaceous, all but the uppermost much exceeding the internodes, sparsely appressed-lepidote. **Inflorescence** simple, polystichously 20–33-flowered, 15–20 × 10–12 cm. **Floral bracts** broadly elliptic to ovate, acute, 3–8 mm long, membranaceous, all shorter than the pedicels. **Flowers** with an erect to spreading, slender, 8–17 mm long pedicel; yellow (!J. Campos), glabrous. **Sepals** obtuse, 15–17 mm long, thin-coriaceous, nerved. **Corolla** erect, semitubular. **Petals** ligulate, broadly acute, 35–38 mm long, each with a broad basal appendage. **Ovary** more than ¾ inferior. **Fruit** an ovoid capsule, 15 × 12 mm, yellow (!J. Campos) to dark green (!P. Barbour). **Seeds** curved, narrowly subtriangular, winged, 1.5 mm long.

Paratype. PERU. Amazonas: Bagua, ca. 20 km (by trail) E of La Peca, 2000 m, 12 Aug. 1978, P. Barbour 2868 (US).

This new species differs from the similar *Pepinia tatzyanae* from the Department of Madre de Dios in Peru by having narrower leaf blades (25–30 vs. 30–50 mm wide), and longer (15–17 vs. 12 mm long) obtuse (vs. acute) sepals. Also the flowers of *P. peruana* are yellow, not reddish as in *P. tatzyanae*.

Pitcairnia arenaria H. Luther, sp. nov. TYPE: Peru. Amazonas: Laguna de Pomacochas, 2550 m, 27 Mar. 1998, H. van der Werff, B. Gray, R. Vásquez & R. Rojas 15815 (Holotype: SEL; Isotype: MO). FIGURE 5.

A *Pitcairnia filifera* L.B. Sm. ex H. Luther, cui affinis, sepalis et petalis perbrevioribus differt.

Plant a terrestrial, stemless to very short-caulescent, flowering 50–75 cm tall. **Leaves** dimorphic; some reduced to nearly bladeless triangular sheaths and persistent; others linear, deciduous

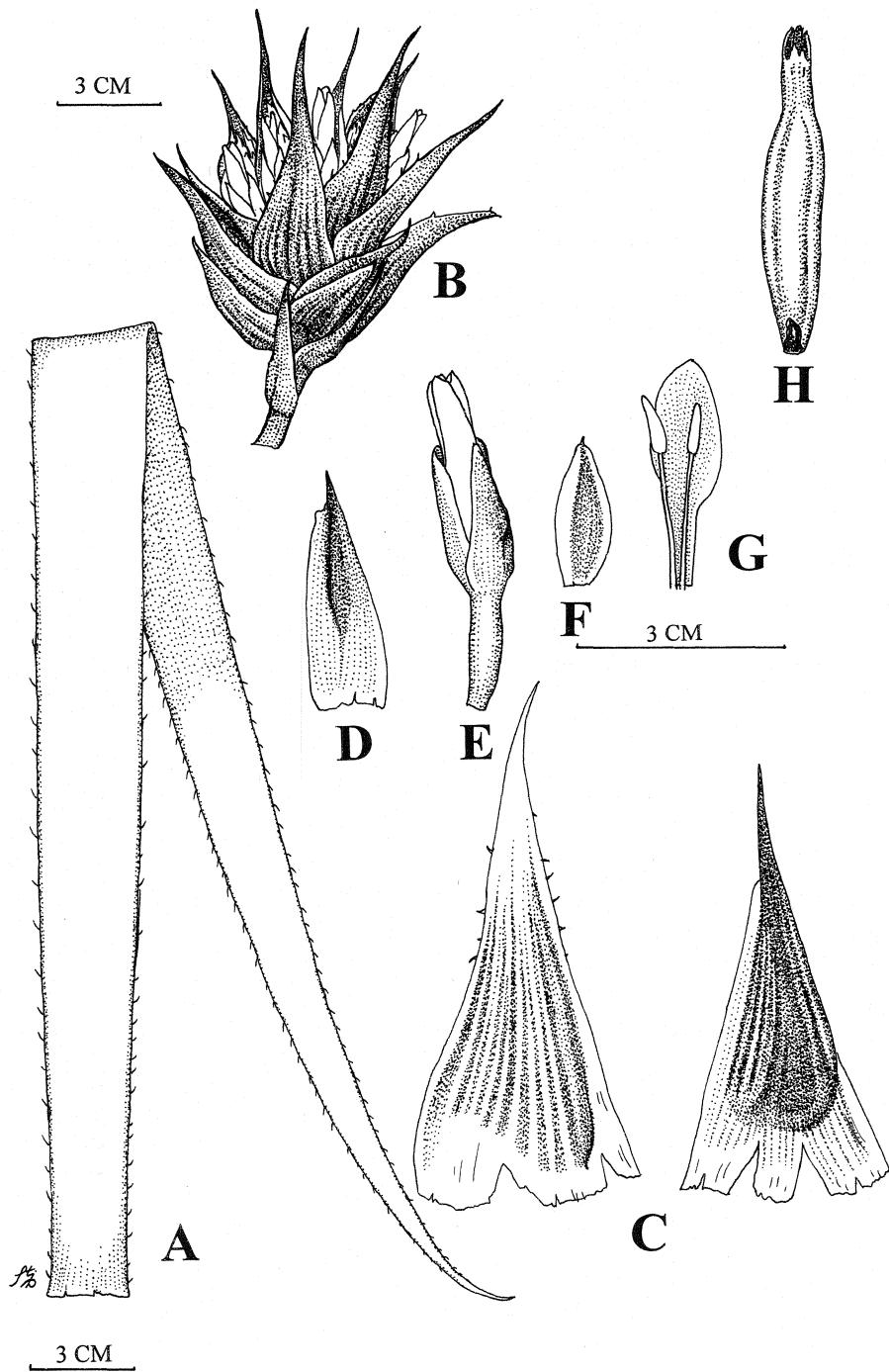


FIGURE 3. *Greigia leymebambana*. A. Leaf blade. B. Inflorescence. C. Primary bracts. D. Floral bract. E. Flower. F. Sepal. G. Petal with 2 of 6 stamens. H. Fruit. (V. Quipuscoa S. et al. 1343, SEL)

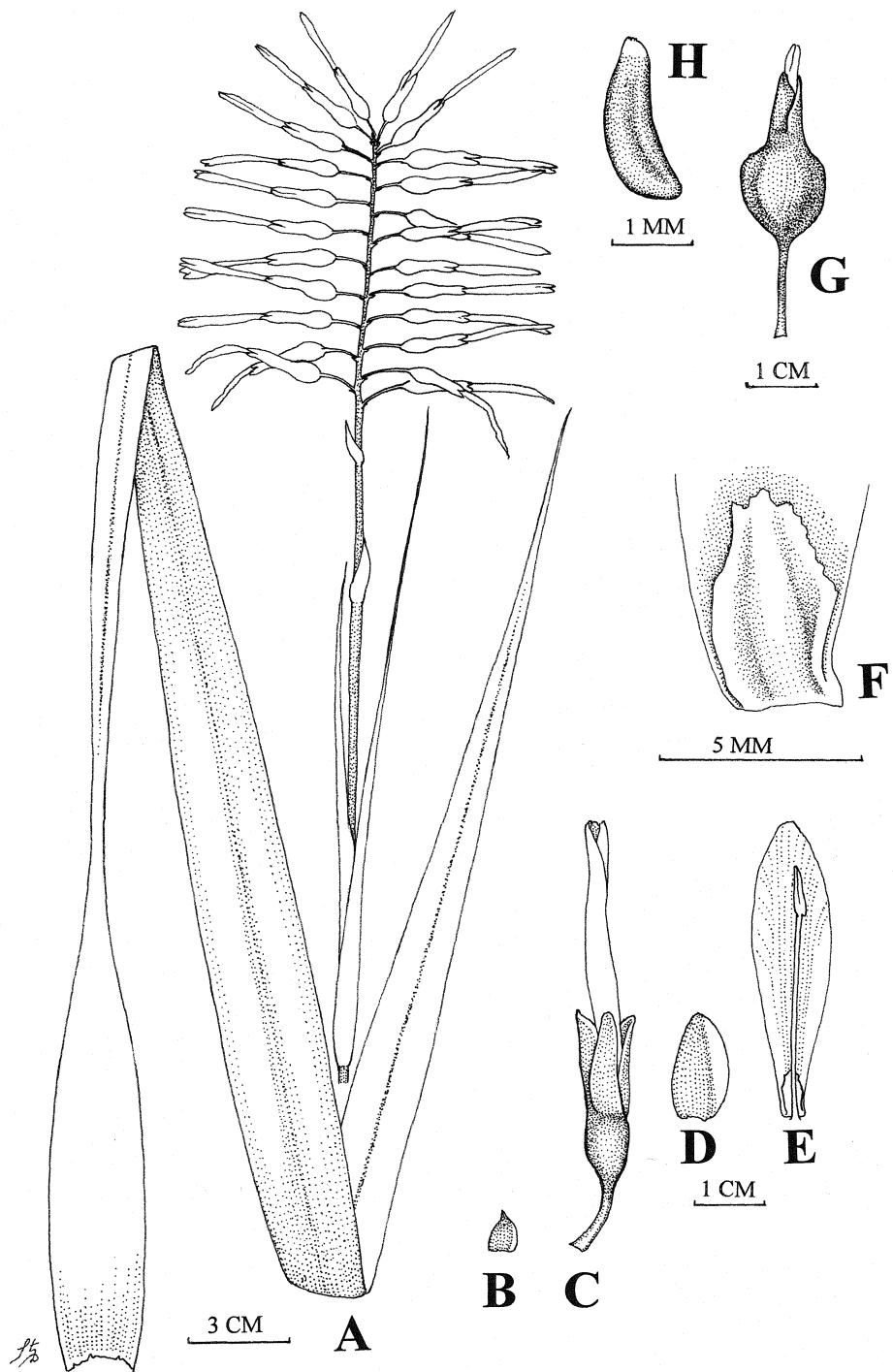


FIGURE 4. *Pepinia peruana*. A. Leaf and inflorescence. B. Floral bract. C. Flower. D. Sepal. E. Petal and stamen. F. Base of petal. G. Fruit. H. Seed. (J. Campos & S. Corrales 3556, SEL)

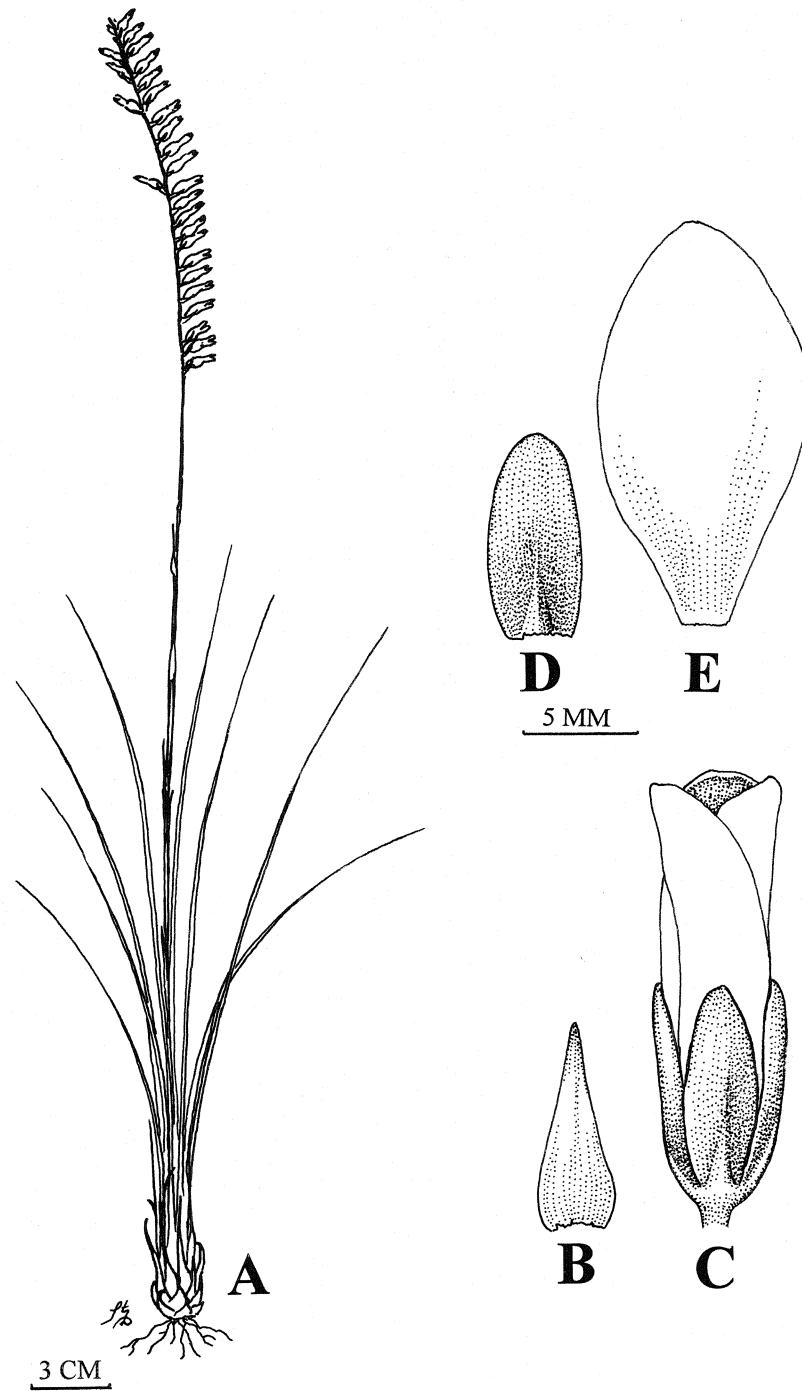


FIGURE 5. *Pitcairnia arenaria*. A. Habit. B. Floral bract. C. Flower. D. Sepal. E. Petal. (H. van der Werff et al. 15815, SEL)

above the sheaths, 40–50 cm long, the remnant spirally incurved. **Leaf sheaths** ovate to elliptic, 15–30 × 6–20 mm, entire, somewhat nerved, dark-castaneous and lustrous especially abaxially, pale brown-lepidote especially abaxially. **Leaf blades** absent to very narrowly triangular to linear, nerved, entire, 2–3 mm wide, coriaceous, involute when dried, long-attenuate, pale-lepidote abaxially and along the margins. **Scape** erect, 25–50 cm × 2–3 mm, fugaceous pale-floccose. **Scape bracts** erect, the lowest subfoliaceous, the uppermost narrowly elliptic, all slightly exceeding the internodes but not concealing them, pale-lepidote abaxially and along the margins. **Inflorescence** simple, 8–15 × 2–3 cm, densely polystichously many-flowered. **Floral bracts** elliptic, acute to long-attenuate, 3–13 mm long, thin, nerved, pale-lepidote, yellow (*H. van der Werff*). **Flowers** with a slender 1–3 mm long pedicel, becoming erect-secund and spreading at ca. 45° to 60° from the axis at anthesis, yellow (*H. van der Werff*). **Sepals** elliptic, obtuse, 8–10 mm long, nerved, carinate, nearly glabrous. **Corolla** erect, semitubular. **Petals** elliptic to oblanceolate, broadly acute, thin, nerved, 15–17 mm long.

Paratype. PERU. Amazonas: remnants of forest around Laguna Pomacochas, 05°50'11"S, 77°57'47"W, 2250 m, 20 Mar. 1998, *H. van der Werff, B. Gray, R. Vásquez & R. Rojas* 15267 (MO, SEL).

Pitcairnia arenaria is apparently restricted to scrubby cloud forest on white sand. It seems to be most similar to *P. filifera* from the Department of Cuzco in Peru but may be distinguished by flowers with shorter pedicels (1–3 mm vs. 3–6 mm long), sepals (8–10 mm vs. 24 mm long), and petals (15–17 mm vs. 38–40 mm long). *Pitcairnia arenaria* is also similar to the Peruvian *P. rigida* Mez, but this species has longer (40 mm long) red petals.

Pitcairnia camposii H. Luther, sp. nov. TYPE: Peru. Cajamarca: Prov. San Ignacio, San José de Lourdes, Localidad Estrella del Oriente, 04°46'00"S, 78°59'00"W, 1600–1700 m, 6 Sept. 1997, *J. Campos & P. Díaz* 4416 (Holotype: SEL; Isotype: MO). FIGURE 6.

A *Pitcairnia biflora* L.B. Sm., cui similis, habitu majore, bracteis scapi imbricatis et pedicellis sepalisque brevioribus differt.

Plant a terrestrial, flowering 60–90 cm tall, densely clustering. **Leaves** dimorphic; mostly reduced to inconspicuous narrowly triangular sheaths; 2 or 3 per shoot exserted, foliaceous, pseudopetiolate, 50–80 cm long; all entire throughout. **Leaf sheaths** ovate to triangular, 1–3 × 1–2 cm, somewhat castaneous, nerved,

brown-lepidote. **Leaf blades** with a 20–30 cm × 2–5 mm nearly terete pseudopetiole; the uppermost portion of the blade narrowly lanceolate, acute to acuminate, 20–28 mm wide, channeled, thin-coriaceous, somewhat nerved, appressed-lepidote, green. **Scape** erect, 35–75 cm × 2–3 mm, rosy (*J. Campos*). **Scape bracts** narrowly elliptic to lanceolate, attenuate; the lowest densely imbricate and much exceeding and covering the internodes; the uppermost about equaling the internodes but not covering them; thin-coriaceous, nerved, entire. **Inflorescence** polystichously 15–26-flowered, 8–12 × 2–4 cm. **Floral bracts** elliptic to oblong, acute, 6–24 mm long, very thin-coriaceous, spreading with the flowers, rosy (*J. Campos*). **Flowers** with a 4–8 mm long pedicel, spreading at 45°–90° from the axis at anthesis. **Sepals** elliptic, somewhat asymmetrical, obtuse, cucullate, 10–12 mm long, coriaceous, slightly nerved to somewhat rugose; the adaxial pair somewhat carinate, rosy (*J. Campos*). **Petals** incompletely known, unappendaged. **Ovary** at least ½ superior.

This new species seems most related to *Pitcairnia biflora* known from two collections from the Peruvian Departments of Loreto and San Martín at 900–1200 m elevation. *Pitcairnia camposii* is a taller more floriferous plant with longer, imbricate (vs. remote) scape bracts and shorter pedicels (4–8 vs. 10–20 mm long) and shorter sepals (10–12 vs. 25 mm long).

Puya pseudoeryngioides H. Luther, sp. nov.

TYPE: Peru. Amazonas: a few km from Molinapampa, 14 Mar. 1998, *H. van der Werff, B. Gray, R. Vásquez, & R. Rojas* 14950 (Holotype: SEL; Isotype: MO). FIGURE 7.

A *Puya eryngioides* André, cui similis, inflorescentia simplice longioreque et petalis viridibus non cyanaeis differt.

Plant a terrestrial, flowering 50–80 cm tall. **Leaves** densely rosulate, spreading, 20–30 cm long. **Leaf sheaths** orbicular, 20–25 × 20–25 mm, pale at the base, castaneous and lustrous toward the blade, entire, sparsely pale punctate-lepidote especially abaxially. **Leaf blades** very narrowly triangular, attenuate, 3–6 mm wide, serrate with antrorse, black, slender 3–5 mm long spines, pale punctate-lepidote especially abaxially. **Scape** erect, 30 cm × 8 mm, pale stellate-lepidote, drying dark. **Scape bracts** very narrowly triangular from an ovate base, subfoliaceous, laxly serrate. **Inflorescence** erect, simple, 22 × 3 cm, polystichously ca. 30-flowered. **Floral bracts** ovate to triangular, acute, pungent, laxly serrulate, 15–25 × 10–18 mm, obtusely carinate, sparsely pale

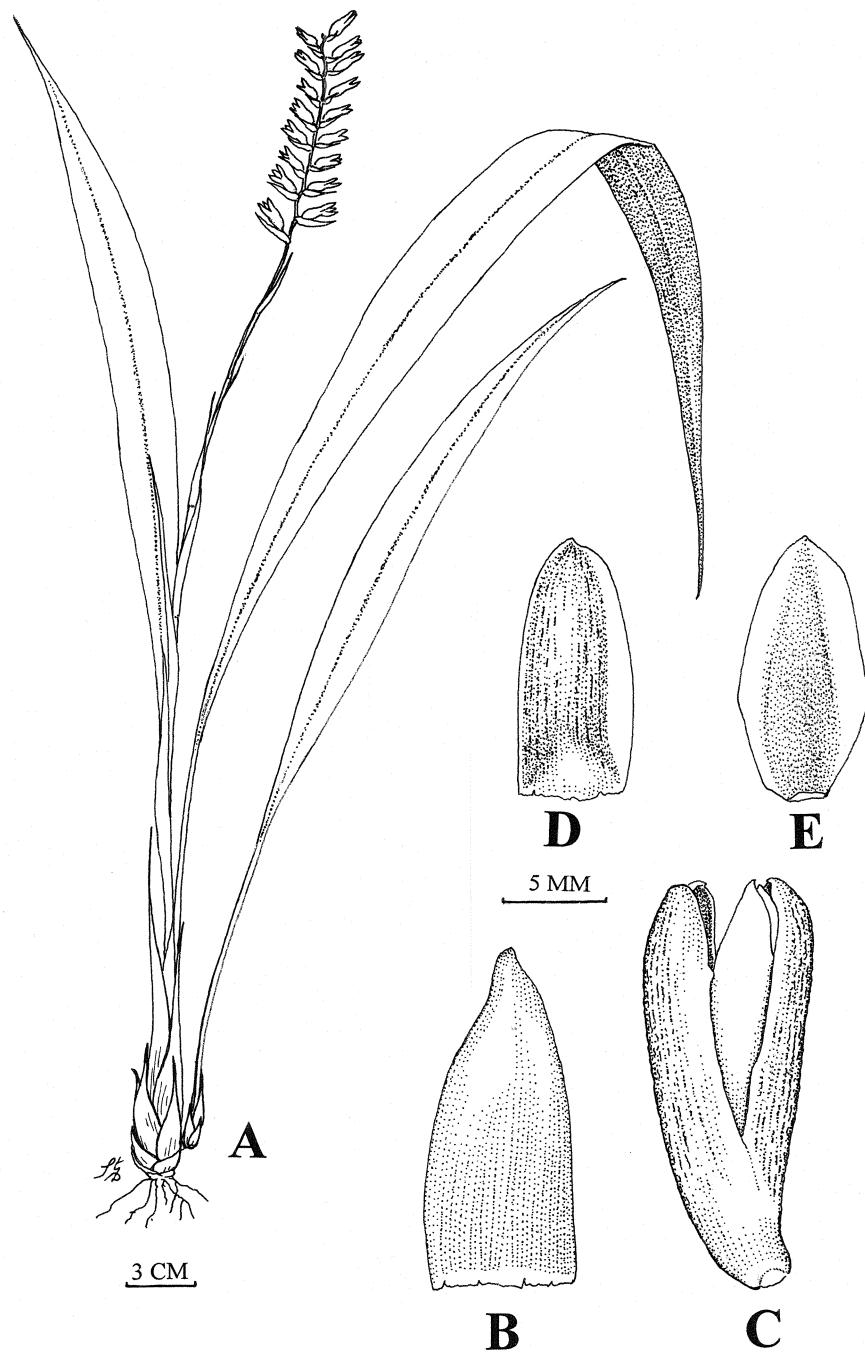


FIGURE 6. *Pitcairnia camposii*. A. Habit. B. Floral bract. C. Immature flower. D. Immature sepal. E. Immature petal. (J. Campos & P. Díaz 4416, SEL)

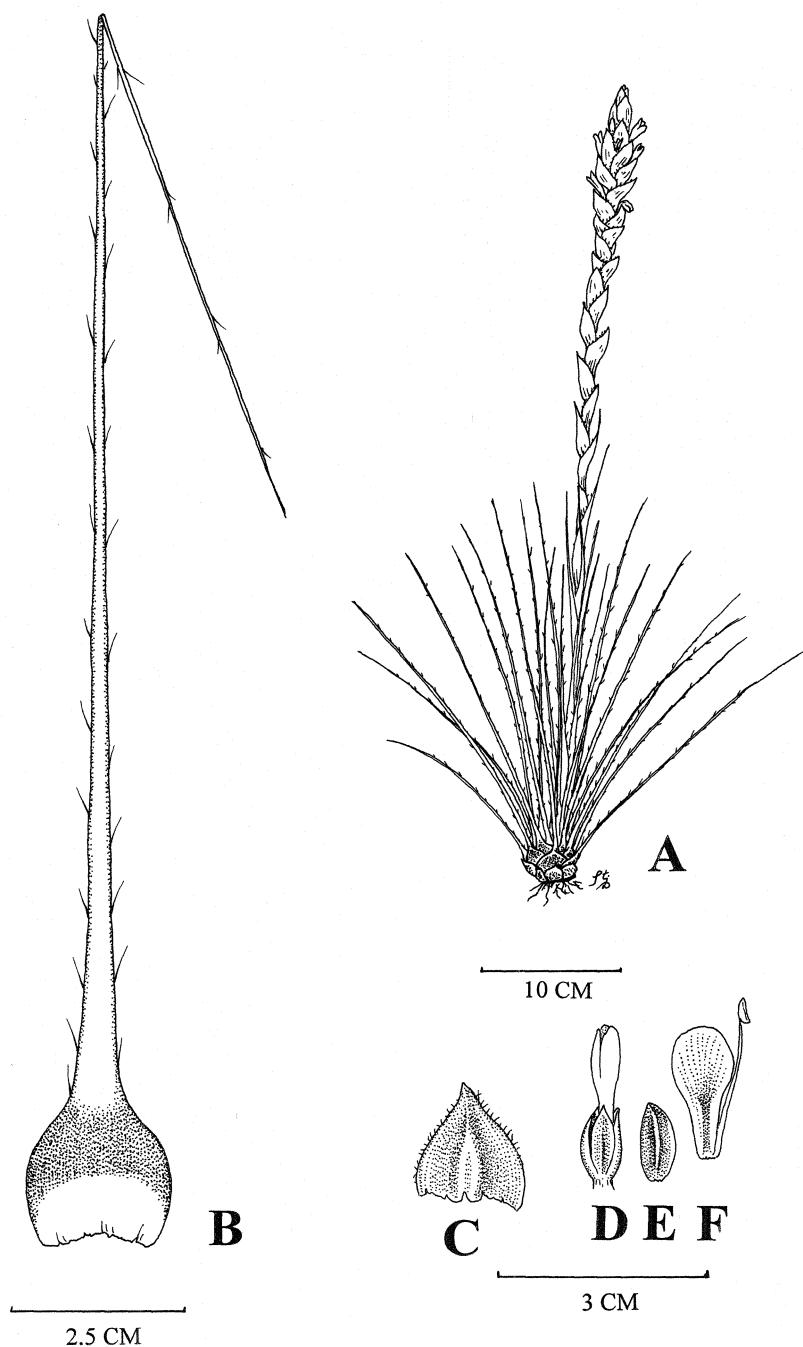


FIGURE 7. *Puya pseudoeryngioides*. A. Habit. B. Leaf. C. Floral bract. D. Flower. E. Sepal. F. Petal and stamen. (H. van der Werff et al. 14950, SEL)

stellate-lepidote, lustrous, reddish-brown. **Flowers** with a stout 2 mm long pedicel, 20–24 mm long, green (*H. van der Werff*). **Sepals** elliptic, acute, 10–12 mm long, nerved, obtusely carinate, lustrous, very sparsely pale stellate-lepidote. **Corolla** slightly spreading. **Petals** free, naked, spatulate, obtuse, 18–20 × 7–10 mm, equaling to exceeding the stamens.

This new species is similar to the Ecuadorian *Puya eryngioides* André but differs by having a longer (20–22 cm vs. 10 cm long) inflorescence that is simple (vs. basally branched) with green (vs. dark blue) petals. The collector notes that it was collected in scrubby vegetation on sandy (evidently moist)

soil with *Sphagnum*, *Utricularia*, *Xyris*, and *Eriocaulaceae* species.

ACKNOWLEDGMENTS

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LITERATURE CITED

Luther, H.E. 2002. An Alphabetical List of Bromeliad Binomials, 8th Edition. The Bromeliad Society International.
Taylor, D.C. and H. Robinson. 1999. A rejection of *Pepinia* (Bromeliaceae: Pitcairnioideae) and taxonomic revisions. Harvard Pap. Bot. 4: 203–217.